



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

B

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,171	09/08/2003	Rogerio Batista Auad	033582R0041	1342
441	7590	09/21/2004	EXAMINER	
SMITH, GAMBRELL & RUSSELL, LLP 1850 M STREET, N.W., SUITE 800 WASHINGTON, DC 20036			RIVELL, JOHN A	
		ART UNIT	PAPER NUMBER	
		3753		
DATE MAILED: 09/21/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/656,171	AUAD, ROGERIO BATISTA
	<b>Examiner</b>	<b>Art Unit</b>
	John Rivell	3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 6/28/04 (amendment).
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 10-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 10-15 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

Art Unit: 3753

Applicant's arguments with respect to claims 10-15 as added in the response filed June 28, 2004 have been considered but are moot in view of the new ground(s) of rejection.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alford in view of Linna, further in view of Rafton.

The patent to Alford discloses, in figure 1 and column 2, lines 17-33, the general combination including "a fluid mixing device, for the continuous mixing of two or more fluids, comprising: a mixing chamber (24) having fluid contact surface means defining an internal chamber region; at least one fluid inlet means (at valve 10) provided in said fluid contact surface means, for feeding at least one fluid into said chamber (24) region; at least one fluid outlet means (the chamber 24 is believed to inherently include an "outlet") provided in said fluid contact surface means, for feeding fluid out of said chamber region" as recited in claim 10.

The patent to Alford discloses all the claimed features with the exception of having "fluid mixing means... capable of inducing mixing of (the) fluids within the mixing region" and the details of the "inlet valve" including serially communicating check valves.

Firstly, the patent to Linna discloses that it is known in the art to employ "a valve means... characterised by comprising: a body portion (2) having at least one fluid entrance aperture (14), for allowing fluid to flow into said body portion; a fluid exit aperture (at seat 48), for allowing fluid to flow from said body portion; entrance aperture sealing means (24) having biasing means (22) for biasing said entrance aperture

Art Unit: 3753

sealing means (24) into a sealing position (at seat 16) in which said fluid entrance aperture is sealed; and exit aperture sealing means (41, 42) having biasing means (50) for biasing said exit aperture sealing means (41, 42) into a sealing position (at seat 48) in which said fluid exit aperture is sealed, said entrance and exit aperture sealing means being adapted to allow passage of fluid respectively into and out of said body portion, according to a specified pressure differential between the pressure externally of said entrance aperture and the pressure externally of said exit aperture" as recited in claim 10 for the purpose of providing a double check valve closure of the fluid entrance port to a fluid receiving chamber and further providing a measure of safety in the event of damage to the filling conduit or to one of either check valve.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Alford plural serially communicating check valves as taught by Alford for the purpose of providing a double check valve closure of the fluid entrance port to a fluid receiving chamber and further providing a measure of safety in the event of damage to the filling conduit or to one of either check valve as recognized by Linna.

Secondly the patent to Rafton discloses that it is known in the art to employ a dynamic mixing element at rotor 32 within a mixing chamber 15 for the purpose of ensuring continuous dynamic mixing of the introduced fluids.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Alford a dynamic rotor element within the mixing chamber 24 for the purpose of ensuring continuous dynamic mixing of the introduced fluids as recognized by Rafton.

Regarding claims 11 and 14, as each of the valves of Linna are biased closed by a spring the "second pressure differential" required to permit closure of the valves is "less than the first pressure differential" needed to open the valves.

Regarding claims 12 and 15, the limitation requiring the pressure differential for closure of the valves to be "of the order of 1Kg cm<sup>-2</sup>" is clearly an obvious design expedient related to the desired operating characteristics of the check valves and provided no new and or unexpected results over the "bias" force used by Linna.

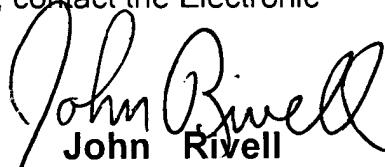
Regarding applicants remarks as they may apply, the device of Linna is now relied on to demonstrate known prior art in which at least two serially communicating check valves are employed in a single fluid flow path for the purpose of providing a double check valve closure of the fluid entrance port to a fluid receiving chamber and further providing a measure of safety in the event of damage to the filling conduit or to one of either check valve as set forth in column 1, lines 33-44 of Linna.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (703) 308-2599. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (703) 308-1272. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John Rivell  
Primary Examiner  
Art Unit 3753

j.r.